Qty:

6 Um:

Each

: BRACKET ASSEMBLY

: D3121041

: N/A

: E

: D3121 REV E

: 30/05/2008

Monday, 12/05/2008 9:58:19 AM

Julie Lecocq

Process Sheet

Drawing Name

Part Number

Material

Due Date

Drawing Number

Project Number

Drawing Revision

Customer

: CU-DAR001 Dart Helicopters Services

Type

Job Number

: 39183

Estimate Number

: 10703

P.O. Number

S.O. No. : : 12/05/2008

This Issue Prsht Rev. /

: NC

: // First Issue

: 36727 **Previous Run**

Written By

Checked & Approved By

Comment

Est Rev:B

New issue KJ/DS ECN 1060

: MACHINED PARTS

07-11-12 DD verified by: EC

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description: 17-4 SS Bar

1.0 M174B1000X02000



BAND SAW

1:7042 f(s) Comment: Qty.: 0.2840 f(s)/Unit Total: Material: 17-4 SS Bar per AMS 5604/5643

> (M17-4-B1.000x02.000) Identify for D3121-11

Batch: M 107956

H.A

2.0

BAND SAW



Comment: BAND SAW

Cut blanks: (1.000" x 2.000") 3.250" long

3.0

HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine D3121-11 as per Folio FA331 and Dwg D3121Identify as D3121-11

2-Deburr

3-Scribe batch number

4.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

Dart Aerospace Ltd

	WORK ORDER CHANGES							
STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		
	•							
	3							
			÷					
	STEP	STEP PROCEDURE CHANGE	STEP PROCEDURE CHANGE By	STEP PROCEDURE CHANGE By Date	STEP PROCEDURE CHANGE By Date Qty	STEP PROCEDURE CHANGE By Date Qty Chief Eng / Prod Mgr		

Part No: <u>D3121-041</u>	_ PAR #:	Fault Category:	NCR: Yes No	DQA:	Date:	
			QA: N/C	losed:	Date:	

NCR: 39183 WORK ORDER NON-CONFORMANCE (NCR)								
DATE	CTED	Description of NC		Corrective Action Section B		Verification	Approvai	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
∆8.05.7°o	3	Holes are 0.030" down 12. 0.300 Dim is 0.270".	08.05.30 pu 051042	Machine hole to add 0.030" TO TOP OF HOLE	08/04/11	88-06-(1	prian	104-0611
		•						

NOTE: Date & initial all entries

Monday, 12/05/2008 9:58:19 AM Julie Lecocq **Process Sheet** Drawing Name: BRACKET ASSEMBLY Customer: CU-DAR001 Dart Helicopters Services Part Number: D3121041 Job Number: 39183 Job Number: Description: Seq. #: **Machine Or Operation:** SECOND CHECK 5.0 OC8 Comment: SECOND CHECK D312121 Bolt 6.0 6.0000 Each(s) Comment: Qty.: 1.0000 Each(s)/Unit Total: Pick: Description Batch **Qty Part Number** Bolt B 39047 1 D3121-21 D3121241 Bearing Assembly 7.0 Comment: Qty.: 1.0000 Each(s)/Unit Total: 6.0000 Each(s) Pick: Description Batch Qty Part Number 1 D3121-241 Bearing Ass SMALL & MEDIUM FAB RESOURCE 1 SMALL FAB 1 8.0 Comment: SMALL & MEDIUM FAB RESOURCE 1 Assemble D3121-141 as per Dwg D3121. INSPECT WORK TO CURREN 9.0 Comment: INSPECT WORK TO CURRENT STEP PACKAGING RESOURCE # 10.0 PACKAGING '

Comment: PACKAGING RESOURCE #1
Identify and Stock

Location: 233

QC21

FINAL INSPECTION/W/O RELEAS



Comment: FINAL INSPECTION/W/O RELEASE



11.0



W 08 Dlade

Approval Chief Eng / Prod Mar
Y Chief Eng /
Prod Mgr QC Inspe
Date:
Date:
n Approval Appro
Chief Eng QC Inspi

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	5918 5
	Down Number	D3121-11
Description: Bracket	Part Number:	DSIZI-II
Inspection Dwg: D3121 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Pro	ototype
---------------------	---------

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.392	+0.002/-0.000	Ø0.393				
Ø0.201 x 0.100	+/-0.010	Ø0200 x 0 10	, /			
0.75	+/-0.030	0.756	V			·
0.375	+/-0.010	0.375	/			
1.250	+/-0.010	1.251	V			
0,200	+/-0.010	0.300	/			
1.96	+/-0.030	d.964:	/			
Ø0.573	±40.001+1-0	00.574	✓	A		
0.345	+/-0.010	0.345				
0.300	+/-0.010	0.302	\(\)		<i>ai</i>	
0.080	+/-0.010	0,080)			
2.56	+/-0.030	2.556	J			
2.14	+/-0.030	2.114	/	·		
0.130	+/-0.010	0.128	Ú,			
2.57	+/-0.030	2.580	V			
2.85	+/-0.030	2.842	V			
0.381	+/-0.010	0,380	/		1	
0.400	+/-0.010	0.399	V			•
0.201	+/-0.010	0.201	✓			
0.580	+/-0.010	0.579	V			
0.032	+0.000/-0.010	0.030	✓			

Measured by:	<i>H</i> .4	10	m
Date:	08	05	30

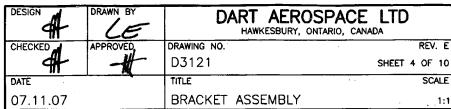
Audited by:	P	\$P
Date:	08	05/30
		,

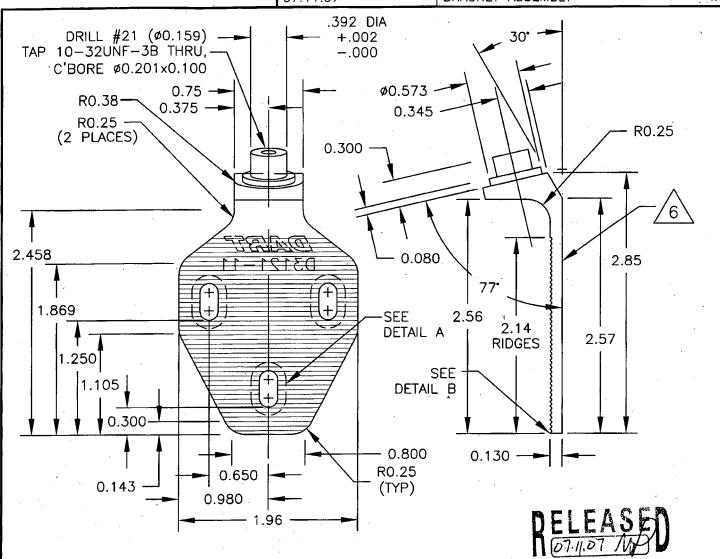
Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change		Revised by	Approved
Α	08.02.01	New Issue	P/O D3121-041	KJ/EC/DD	N/Z









D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

*5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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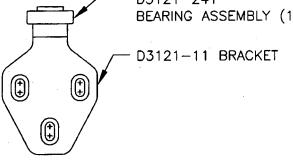
,	DESIGN DRAWN BY		DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
	CHECK	(ED_	APPROVED,	DRAWING NO. REV. E
		#		D3121 SHEET 1 OF 10
	DATE		•	TITLE SCALE
	07.1	1.07		BRACKET ASSEMBLY 1:2
	Α		02.04.15	NEW ISSUE
	В		03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
	С		04.02.17	ADD CLEARANCE; USE -241 BEARING
	D		06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000
	E		07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)



D3121-21 BOLT (1) D3121-241 BEARING ASSEMBLY (1)

D3121-041 BRACKET ASSEMBLY

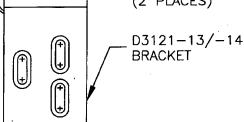
(REPLACES PREMIER P/N B30-23000-33)



D3121-21 BOLT (1) D3121-241 BEARING ASSEMBLY (1) (2 PLACES)

D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-21 BOLT (1) D3121-241 BEARING ASSEMBLY (1) (2 PLACES)

D3121-15/-16 BRACKET

D3121-045 (SHOWN) / D3121-046 (OPPOSITE) BRACKET ASSEMBLY

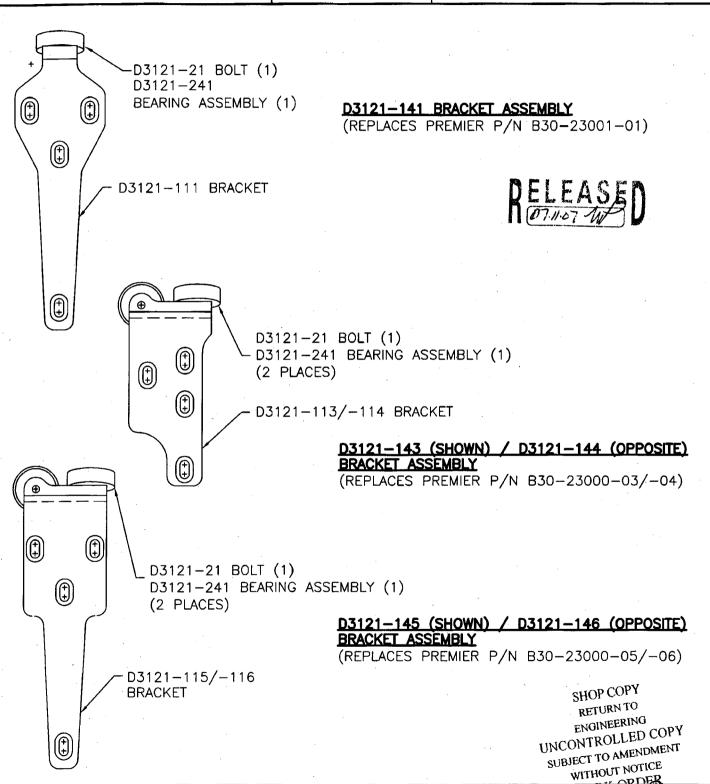
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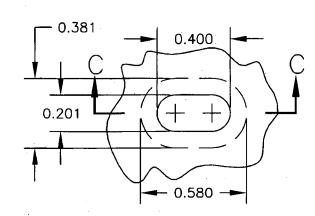
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4		D3121	SHEET 2 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

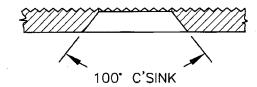




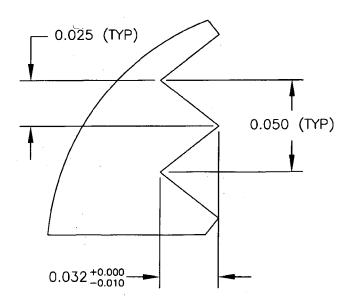
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4	-#	D3121	SHEET 3 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1

DETAIL SLOT DETAIL SCALE 2:1 VIEW ROTATED





DETAIL B: RIDGE DETAIL PARTIAL SECTION SCALE 1:20



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4	-#	D3121	SHEET 5 OF 10	
DATE		TITLE	SCALE	
07.11.07		BRACKET ASSEMBLY	1:2	



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DART

D3121-13

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2.63

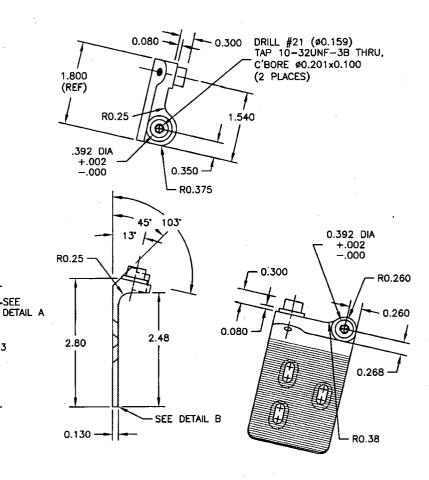
/6\

0.400

1.280

0.960

0.330



D3121-13 BRACKET (SHOWN) D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE STRENGTH = 150 ksi MIN YIELD TENSILE STRENGTH = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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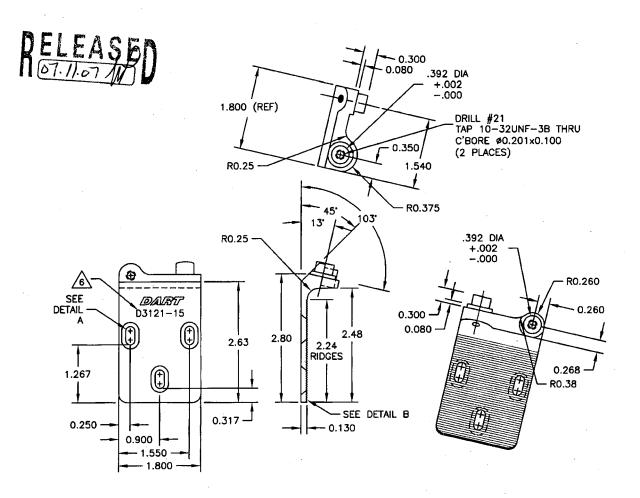
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	#	1	D3121	SHEET 6 OF 10
.	DATE		TITLE	SCALE
	07.11.07		BRACKET ASSEMBLY	1:2



D3121-15 BRACKET (SHOWN) D3121-16 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE = 150 ksi MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N AND LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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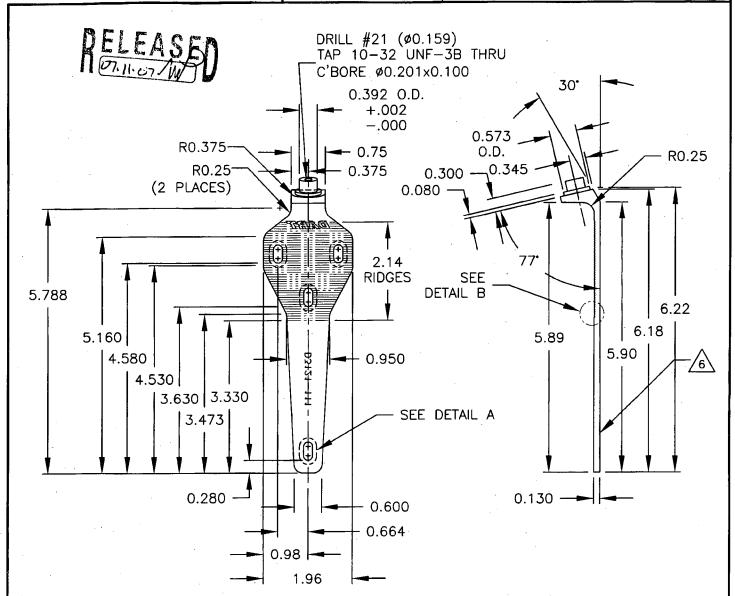
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4		D3121	SHEET 7 OF 10
DATE	1	TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



D3121-111 BRACKET

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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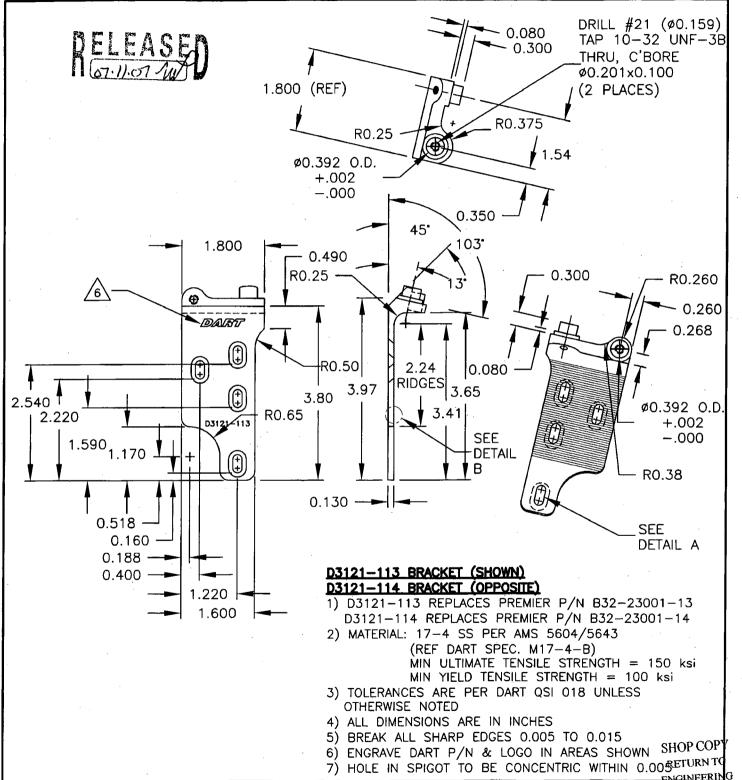
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DATE	-	TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

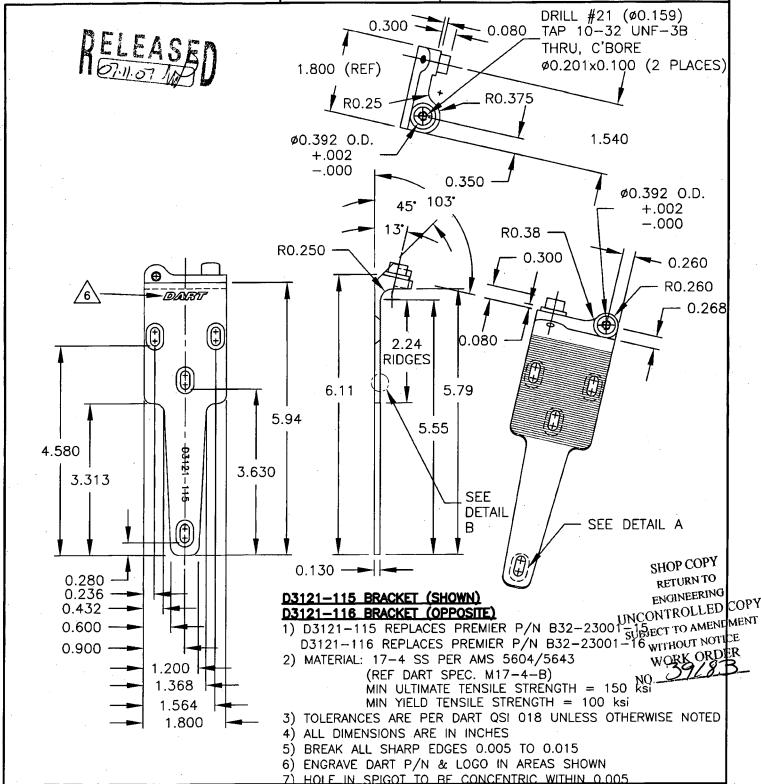


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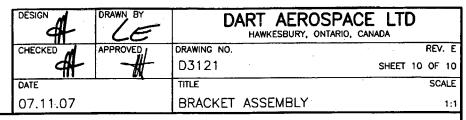


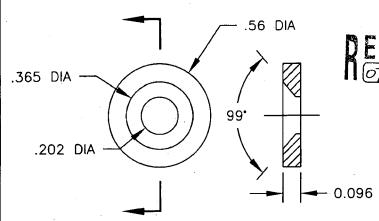
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4H	- #	D3121	SHEET 9 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



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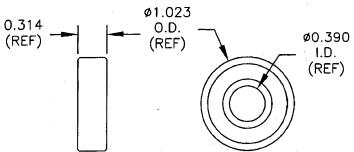






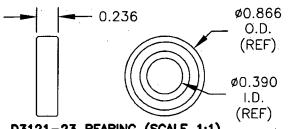
D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



D3121-23 BEARING (SCALE 1:1)

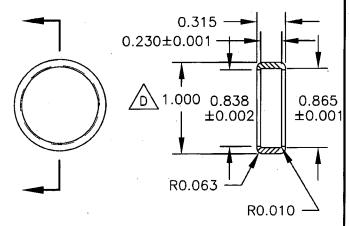
1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ

2) ALL DIMENSIONS ARE IN INCHES

0.375 TAP 10-32 UNF-3A O7.11-07 MP 0.080 0.050 TO 0.060

D3121-21 BOLT (SCALE 1:1)

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

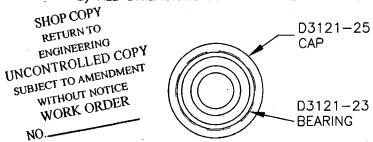


D3121-25 CAP (SCALE 1:1)

1) MATERIAL: DELRIN ROD, Ø1.25

(REF DART SPEC. M-DELRIN-R1.250)

- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES



D3121-241 BEARING ASSEBLY (SCALE 1:1)

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Chris Provencal

From: David Shepherd [dshepherd@dartaero.com]

Sent: May 30, 2008 4:21 PM

To: 'Chris Provencal'

Subject: RE: NCR D3121-11

That's acceptable to me.

David

From: Chris Provencal [mailto:cprovencal@dartaero.com]

Sent: Friday, May 30, 2008 2:10 PM

To: 'David Shepherd'

Subject: RE: NCR D3121-11

Yes. I'm having them do that now. If you send an email saying that's acceptable then I'll sign it off when it's

done.

Thanks, Chris

From: David Shepherd [mailto:dshepherd@dartaero.com]

Sent: May 30, 2008 3:38 PM

To: 'Chris Provencal' **Cc:** 'Mike Petsche'

Subject: RE: NCR D3121-11

Can they elongate the slots 0.030" upwards to regain the original flexibility of the part?

Thanks, David

From: Chris Provencal [mailto:cprovencal@dartaero.com]

Sent: Friday, May 30, 2008 1:25 PM

To: 'David Shepherd'
Cc: 'Mike Petsche'

Subject: NCR D3121-11

David,

Qty(1) D3121-11 Bracket. All the holes are shifted down 0.030" from nominal. The 0.300" dim is 0.270". Is this acceptable?

I would say the part is OK considering it's slotted and can be adjusted, but I'm not sure how much play is actually needed for the slots.

-Chris